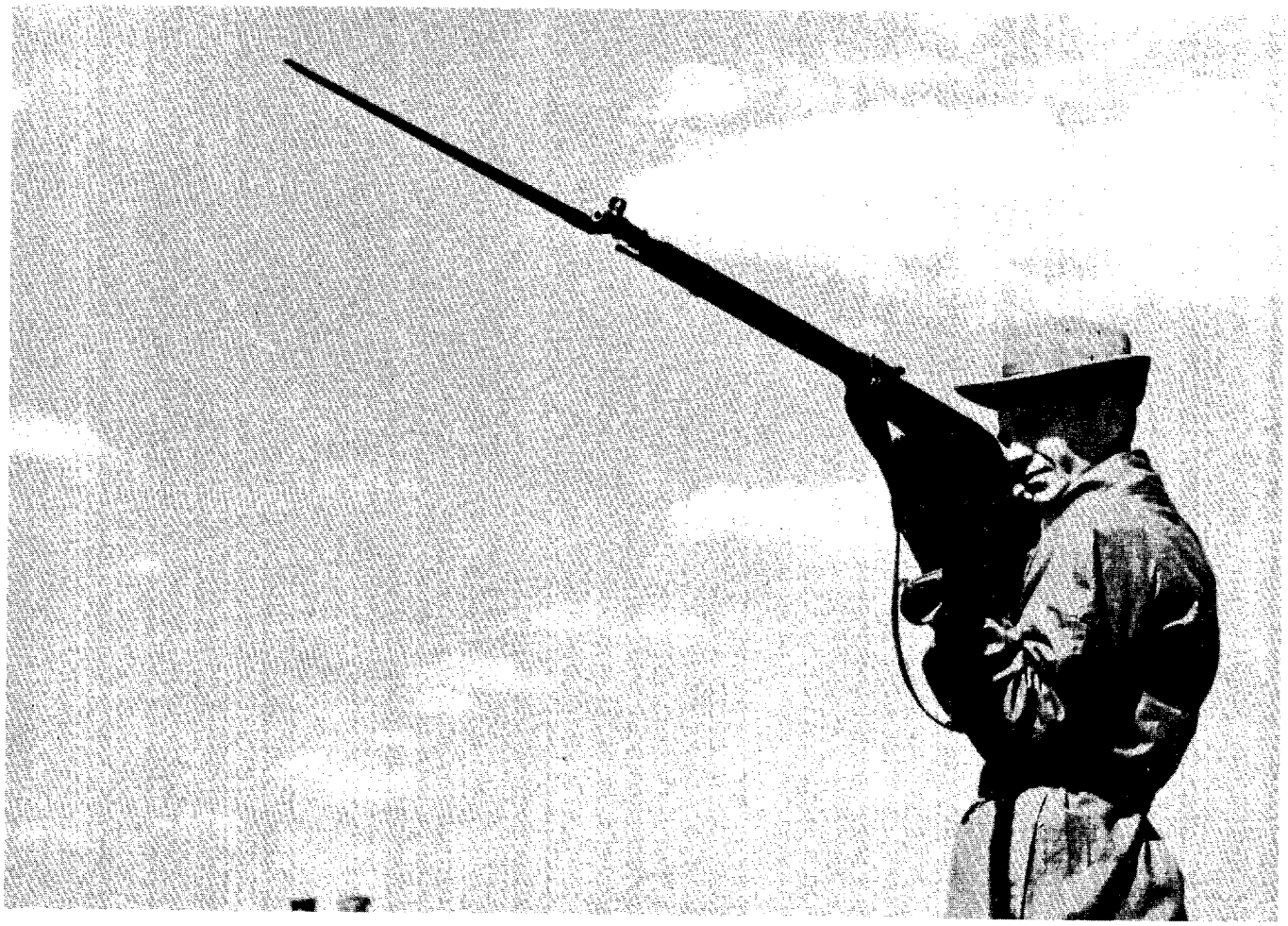
WEAPONS 2

RED SKY



MORE RUSSIAN SMALL ARMS AND AIRCRAFT GUNS

1848-1948

BY ROGER MARSH

Hero of Socialist Labor B.Shavyrin, chief designer of mortars.

Early in 1952 death ended the career of George Shpaghin. In little more than a decade he had risen from relative obscurity to the status of chief designer of infantry arms. Designer of the famous PPSh-1941 and redesigner of the D/Sh/K-1938, his position in the arms design field is permanently assured.

Doctor of technical science, Hero of Socialist Labor, the late Major General of Engineer-Artillery Service V.A.Degtyarev is one of the all-time greats of arms design. Born in 1880, in 1891 he was working at Tula! He witnessed early tests of foreign MGs at Oranienbaum, returning to Tula to work with Fyodorov on improved loadings for what was to be the 1908 cartridge. In 1925 he invented the LMG which became the DP-1928. He also invented the DK-1938 and the PTRD-1941, not to mention the various aircraft and tank versions of the DP. His grandfather had lived in the first half of the Nineteenth Century and had worked on Berdan rifles at Tula, while his father at the same plant assembled the first "three-line" rifles, so some of the sources of his ability are known!

F.V.Tokarev as he looked in 1940 when, at the age of 70, he was named a Hero of Socialist Labor and was awarded the Order of Lenin and the Gold Star "Sickle and Hammer". Shown here receiving these honors from Mikhail Kalinin, Tokarev is best known for his work on the TT30-33 pistol and on the Russian semi-automatic rifles of the late 1930s and early 40s.

NOW HEAR THIS!

First of all, WEAPONS has a new policy...no new subscriptions will be accepted in the future. If you are already a subscriber, your subscription will be honored to the bitter end - but all future issues will be available only on individual sale to individuals who did not subscribe before the appearance of WEAPONS 2. Also, WEAPONS will in future be sold by WEAPONS, INC.,Hudson, Ohio.

As with WEAPONS 1, the list of source material for for WEAPONS 2 is too long to include. However, special thanks go to those individuals who have supplied information.(Credits are given in the text.) In particular, A.Engelhardt of Buenos Aires has supplied much information and data... and has corrected the "typographical errors" in the Russian portions of WEAPONS 1.

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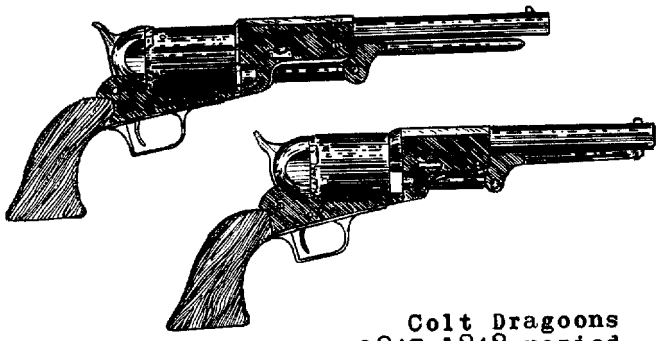
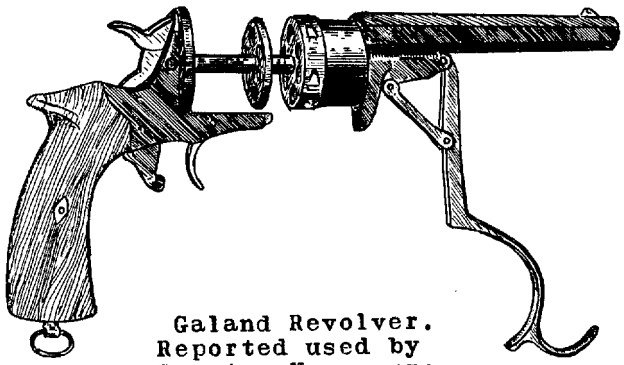


Colt Dragoons 1847-1848 period. Reported used and possibly manufactured in Russia.



Galand Revolver. Reported used by Russian Navy, probably after 1870. 6 shot, 9mm.

In 1855 large quantities of Colt revolvers were sold to both Russia and Turkey.

Unique Russian pin-fire revolver, 6 shot double-action, caliber 7mm or 8mm(pin-fire). Marked "CH I NORMANN IN TULA". Carved grip, metal parts deeply engraved and gold inlaid. (Courtesy of Major Clair F.Ogden.)

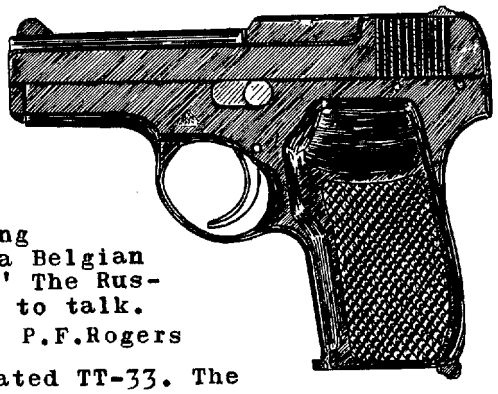
Smith & Wesson .44 Russian revolver, made 1870-75. Even these have been reported from Korea. Communist logistics problems must be horrifying.

A batch of Nagant"service" revolvers in .22 RF was made about 1935. They were standard except for caliber.

Below: the Mauser Model 1912/14 military autopistol. This item has an obscure and confusing history. Reportedly originally designed for the Russians, it was also set up for sale to Brazil. It is a delayed-blowback chambered for a special version of the 9mm Parabellum cartridge with boat-tail bullet (DWM 487 C). Few if any delivered to either country.... now extremely rare.

Below: the little "TK" (Tula-Korovin) autopistol. Caliber 6.35mm Browning or .25 ACP. Pistol is blowback, 5" over all with 2-5/8" barrel, weighs approximately .9 lb empty. Variously described as a commercial or pocket pistol and as a Russian nurses' gun.

"Коровина" пистолет...обр. ТК



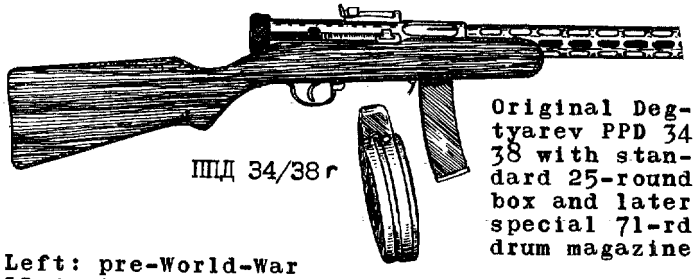
Newly reported: "..while serving in Germany, he observed a Russian officer carrying a pistol of Browning design and clearly not a Tokarev 30...saw the pistol out of the holster...'blued, about 9mm caliber..fat grips of black plastic with a star emblem and a stamping which seemed to be CCGP. Trigger...resembling that of a Belgian Browning 9mm H.P.35 and might have been double action.' The Russian did not speak very good English and was not eager to talk. He said, however, that the pistol was a 'pattern 48'". P.F.Rogers

Present basic Russian service pistol is designated TT-33. The TT-30 is believed to have been the prototype.

Sid Aberman reports a Russian autopistol, c.1930, cal. 9mm.

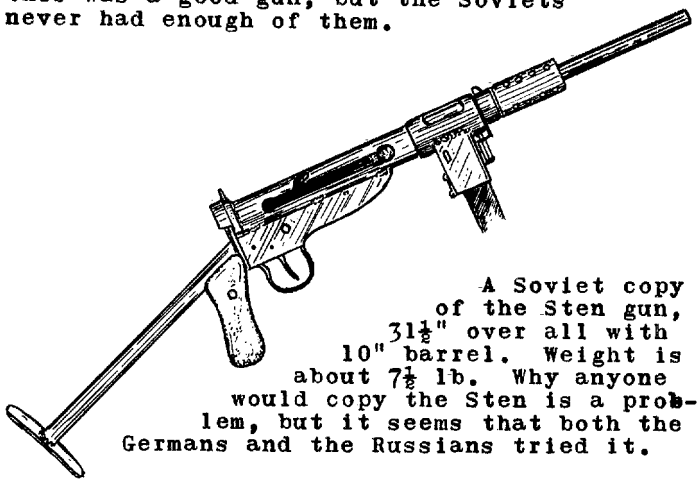
See pages 2-3

SUBMACHINE GUNS -



Original Degtyarev PPD 34 38 with standard 25-round box and later special 71-rd drum magazine.

Left: pre-World-War II Soviet ski trooper with PPD 34/38. Entirely conventional, this was a good gun, but the Soviets never had enough of them.



A Soviet copy of the Sten gun, 31½" over all with 10" barrel. Weight is about 7⅛ lb. Why anyone would copy the Sten is a problem, but it seems that both the Germans and the Russians tried it.

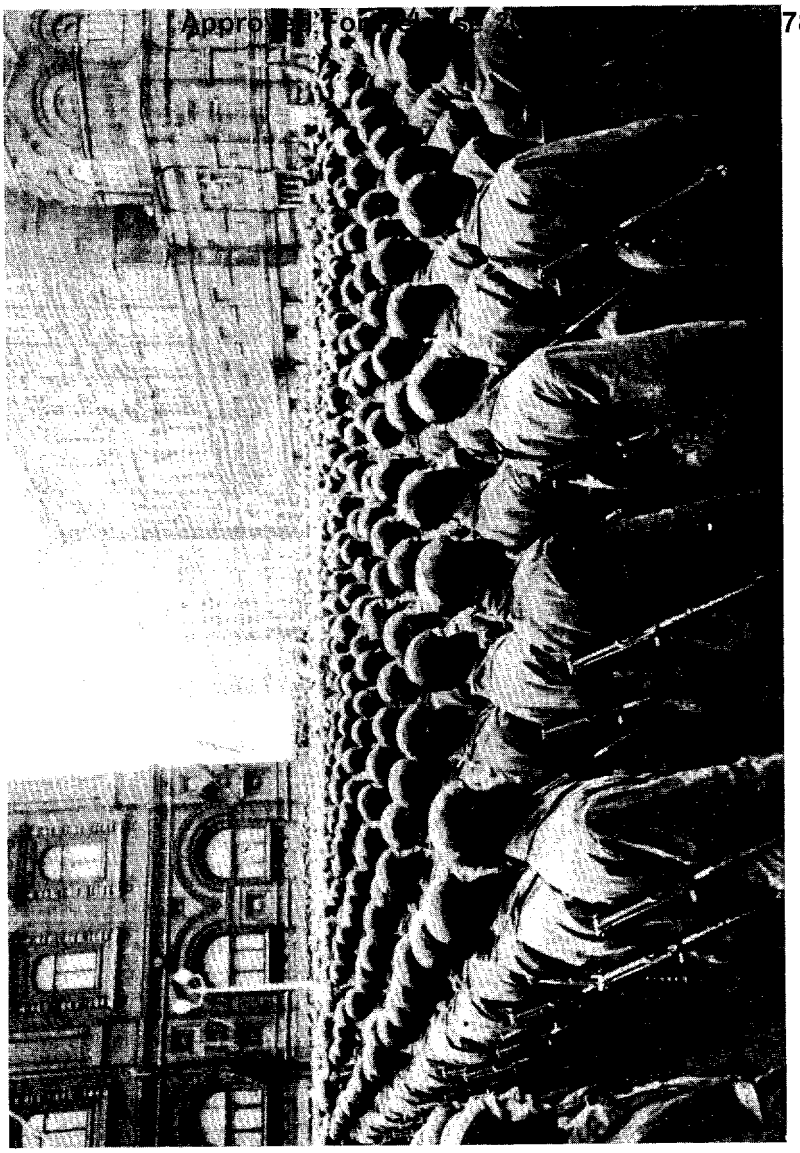
Below: Shpaghin-designed PPSh 1941 with later 35-round box magazine.

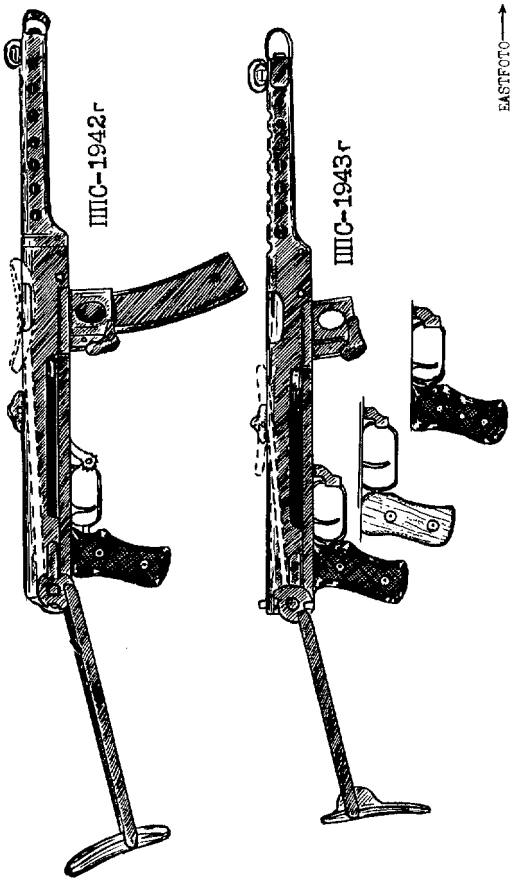
PPSh markings: star in medallion - Soviet. Hammer and sickle in circle in a star whose lower points straddle a three-bladed propeller - believed Soviet. Star within one or two concentric circles - North Korean (Pyongyang).

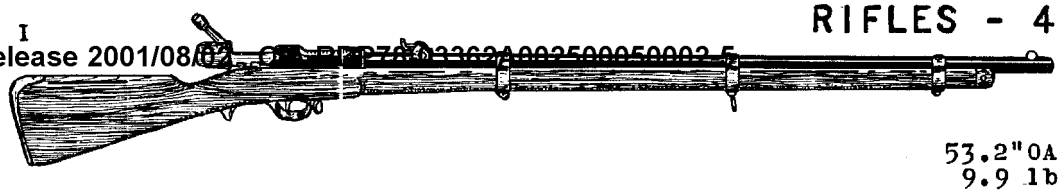
Left: Soviet scout group (World War II) checking its equipment before a raid into Nazi lines.

Opposite page: the Sudaev 1942 and 1943 SMGs. (1)Guards Lt.Alexander Preminin with a PPS43. (2)Airborne troops in a Soviet review. Most have PPS43s, but man in row fourth from left has a PPS42. (3)PLA airborne troops with PPS43s.

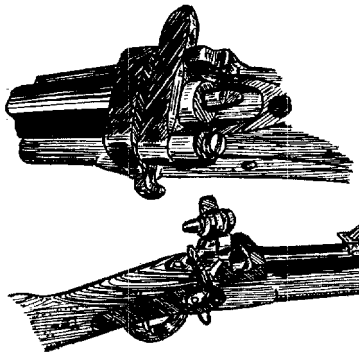
The original Sudaev 1942 had a folding stock which sometimes interfered with ejection. The redesigned gun(43), considerably lighter, is a first-rate SMG. 35-round box magazine.







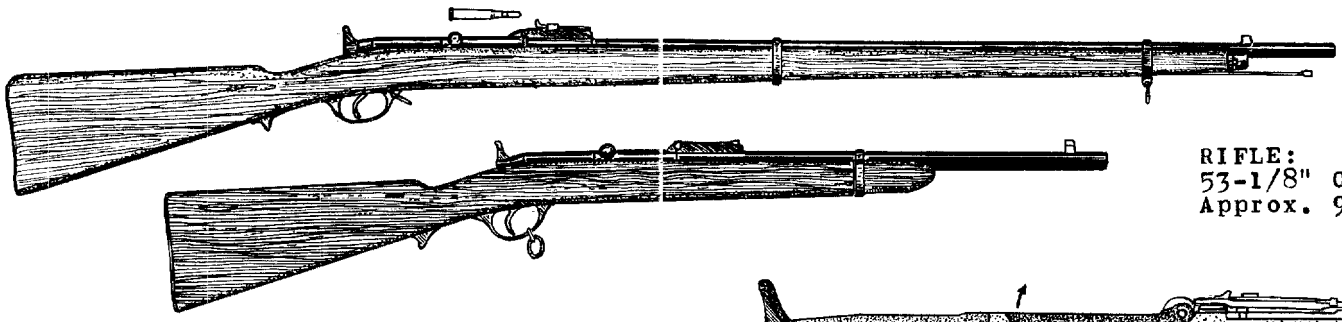
53.2"OA
9.9 lb



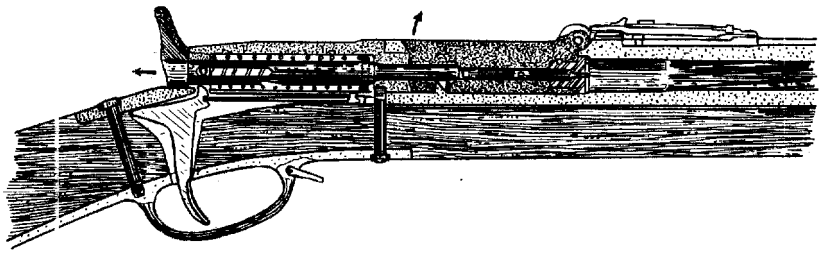
Left: the 16mm (sometimes called 15mm) Krnka M.1856/69 conversion.

53.5"OA
10 lb.
Also called M.1867.

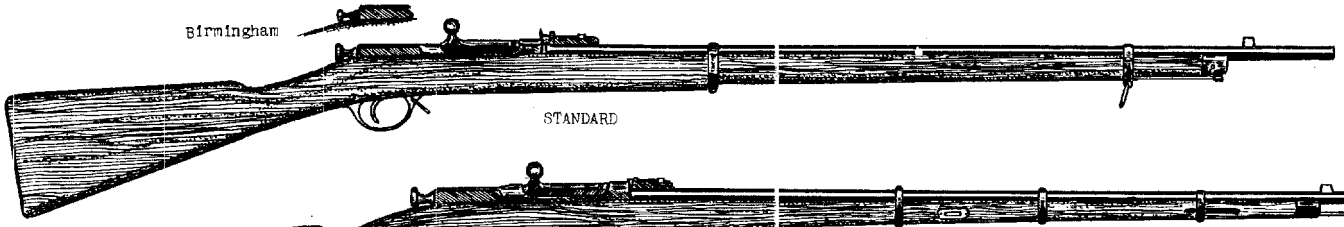
Above: the 15.2mm Carlé needle-fire conversion, M.1868.
It is also listed as the Model 1856/67.
There was also a bolt-action "capping breech-loader" with the Della Noce capping device.



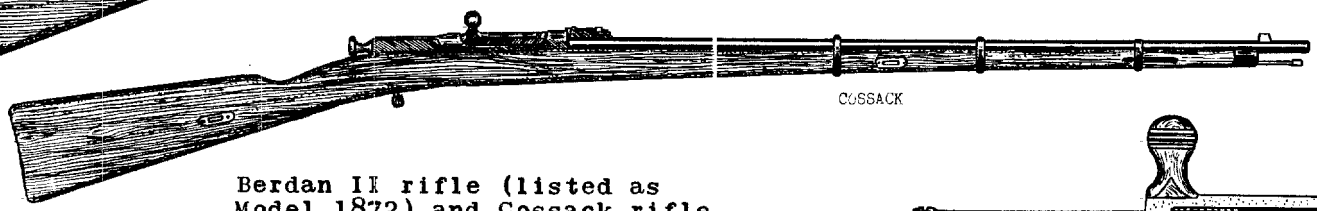
RIFLE:
53-1/8" OA
Approx. 9 lb.



Berdan I rifle and carbine, caliber 10.66mm, M.1867. Some 20,000 of these were made by Colt for Russia, 1870-72. The carbine used a shorter and somewhat less powerful cartridge. Section drawing at right: with the striker cocked, the breechblock could be flipped up and forward (like the Allin Springfield) for reloading.

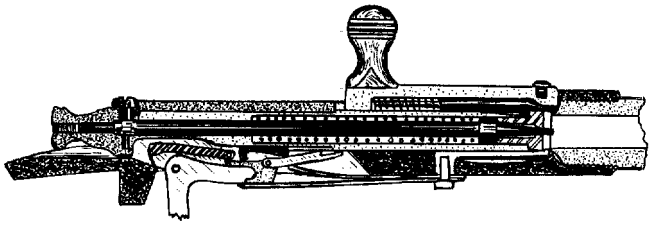


53¼" OA
32.8" bbl.
9-10 lb.

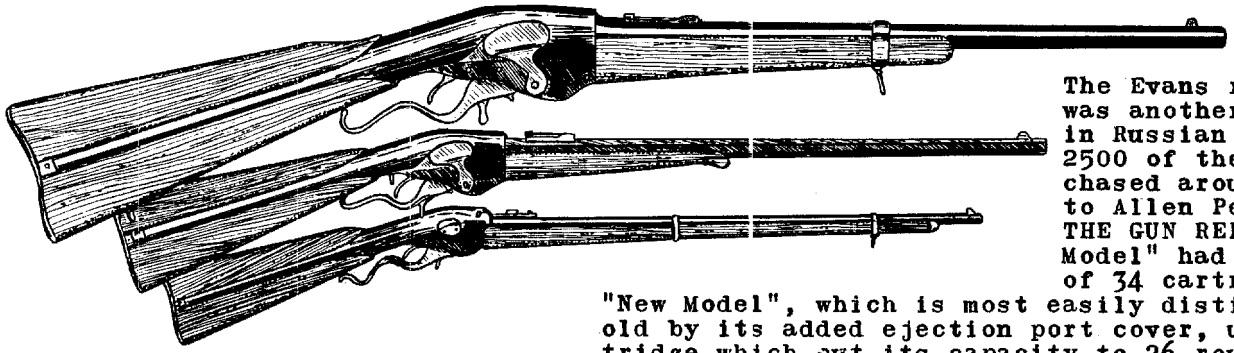


48½" OA
28.8" bbl.
7.6 lb.

Berdan II rifle (listed as Model 1872) and Cossack rifle, Model 1885 , caliber 10.66mm. A carbine on this system is also reported. Many of these rifles were made under contract in Birmingham. Earlier standard rifles are believed to have been produced at the St. Petersburg arsenals. The Cossack rifles (reportedly made for Caucasian guards) were manufactured at Sestroretsk. Section drawing at right: turning bolt action.



Although Günther lists the Berdan II as Model 1872, Schmidt calls it the Model 1881.



The Evans rifle, caliber .44, was another American gun used in Russian service, about 2500 of them having been purchased around 1878 (according to Allen Pennell Wescott in THE GUN REPORT). The "Old Model" had a magazine capacity of 34 cartridges, while the "New Model", which is most easily distinguished from the old by its added ejection port cover, used a longer cartridge which cut its capacity to 26 rounds. The Evans had a rotating screw magazine forming part of the stock - four columns of cartridges riding a helical ramp as the rotor of the magazine revolved!

This year - 1952 - is officially the 240th anniversary of the great armory of Tula.

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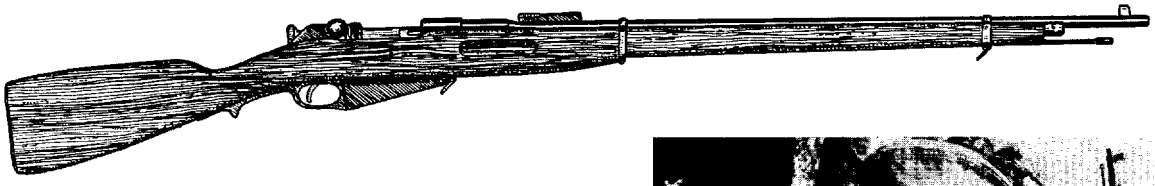
Actually, however, Tula has a much longer history than that. First mentioned in 1147 - believed, however, to have been then located up the Tulitsa - it is known to have been at its present location as early as 1514. During that year and the seven following its wooden fort was replaced with a stone citadel or "kreml'" (whence "Kremlin" is derived), still standing as recently as 1930. Tsar Boris Godunov founded the first Russian gun factory at Tula in 1595, and an iron factory was established by a Dutchman, Winius, in 1632. Peter the 1st caused the rebuilding and enlargement of the existing facilities 1705-1714, and during this period the armory was "officially" founded. It has ever since supplied arms to Russian armies. Such men as Mossin, Fyodorov, Degtyarev, Tokarev, Berezin and Kurakov have worked at Tula.

***

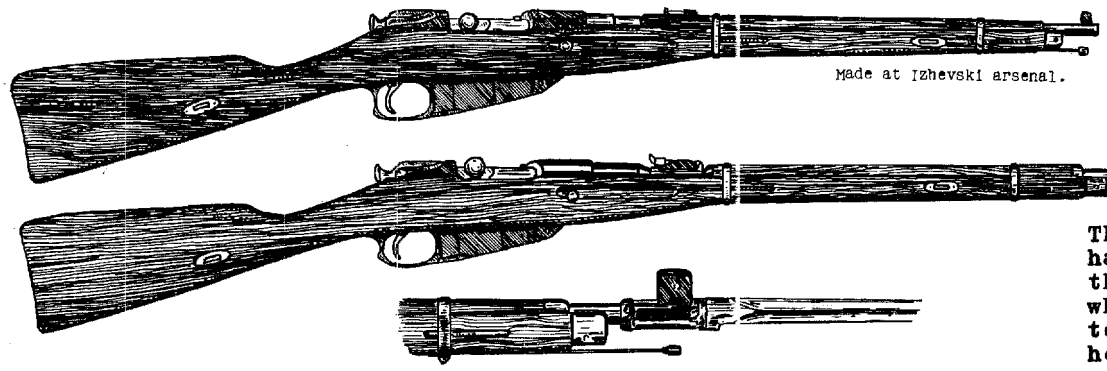
Left: one of the exhibits at the Tula armory museum - the first of the famous three-line Mossin(-Nagant) rifles produced and adopted in 1891. In the background is a portrait of Mossin, designer of the rifle's action.

Immediately below: it has not been possible to identify satisfactorily the rifle shown here. Illustrated and listed by Freemantle(in "The Book of the Rifle")as a Russian Nagant Mauser, it may be one of the rifles tested by the Russians with the Nagant magazine system. The action is clearly not a Mossin.



Right: the most recent Soviet service shoulder weapon - the Model 1944 Mossin carbine with attached folding bayonet - held by the young soldier being advised by Senior Sgt. Mitrokhin, holding a PPSh 1941. Compare it with the original 1891 rifle....the wheel seems to have come full circle!

The 1944 carbine seems to be coming into very general use within Soviet and satellite countries. It is encountered all the way from Korea to the Soviet soldiers of the four-power guard in Vienna.

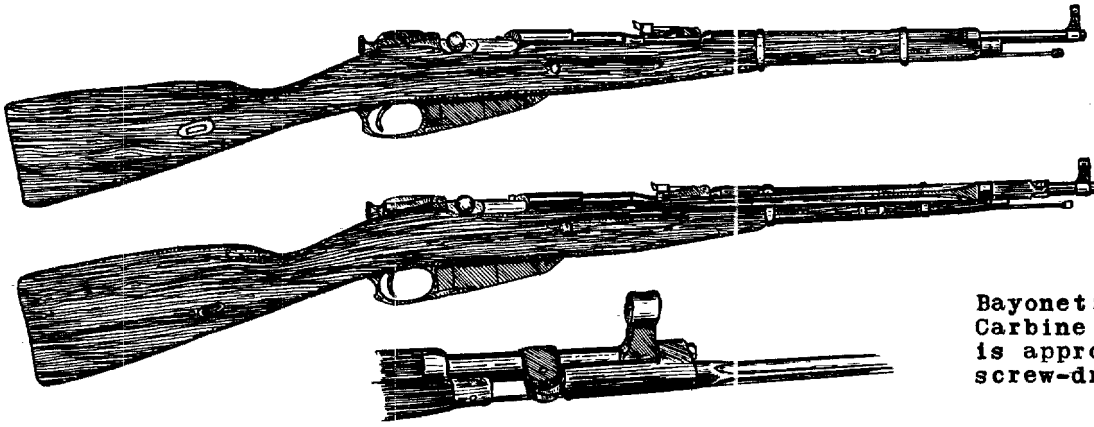


Made at Izhevski arsenal.

Model 1910 Mossin-Nagant carbine. 40" OA, 20" bbl. 7 lb 9 oz

Model 24/27 Mossin-Nagant carbine. Similar to later 1938.

The 24/27 is believed to have been designed to use this rather odd bayonet, which, when attached, seems to provide a front sight hood.

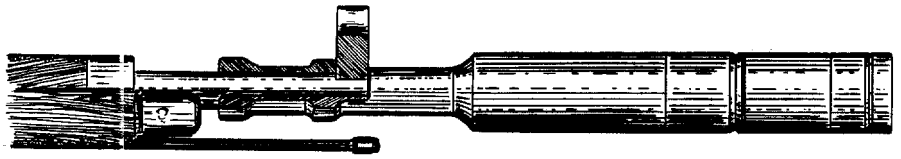


Model 1938 Mossin-Nagant carbine. 40" OA, 20" bbl. 7 lb 1 oz

Model 1944 Mossin-Nagant carbine. 40-1/8"OA,20⅛" bbl. 8 lb 10 oz with attached bayonet.

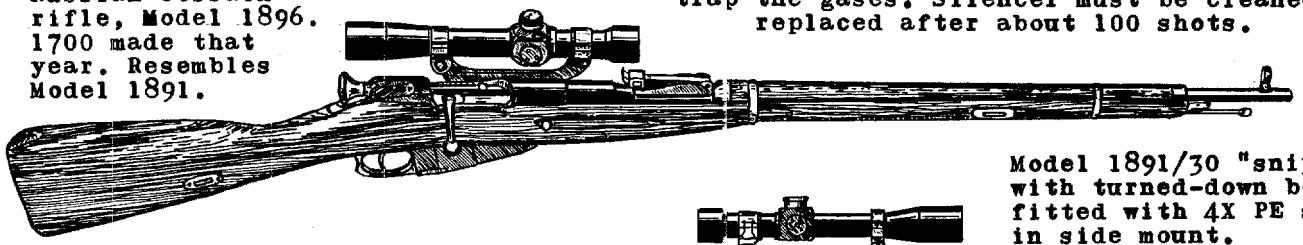
Bayonet: blade approx.12.2". Carbine OA with bayonet extended is approx.52.2". Four flutes, screw-driver point.

Right: silencer for 1891/30 Mossin-Nagant rifle. Weight about 1.1 lb., length approximately 9½", diameter approximately 1½". Use with green "partisan" load (see p.18, WEAPONS 1).

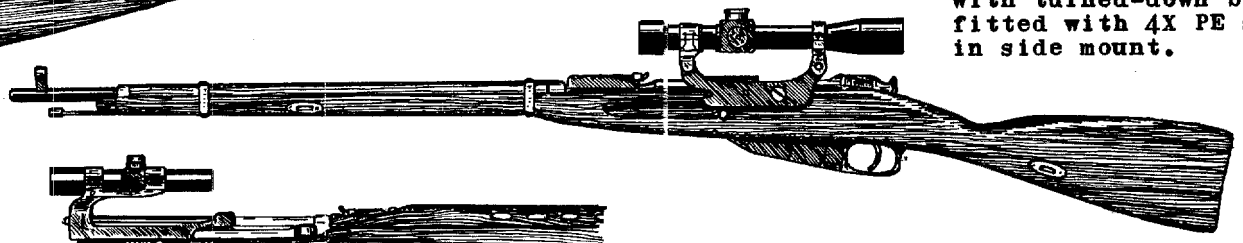


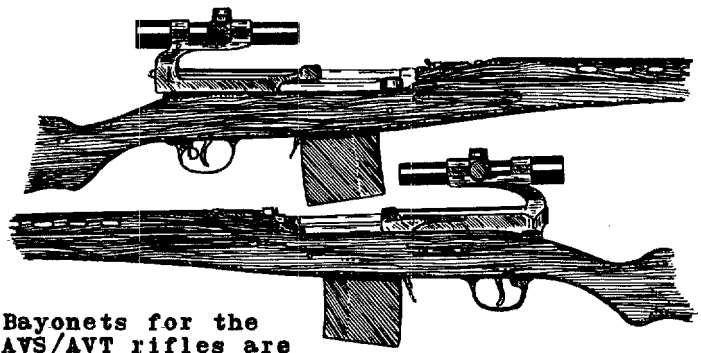
Silencer includes two 15mm-thick rubber plates which trap the gases. Silencer must be cleaned and plates replaced after about 100 shots.

Not illustrated: Russian Cossack rifle, Model 1896. 1700 made that year. Resembles Model 1891.



Model 1891/30 "sniper" rifle with turned-down bolt handle, fitted with 4X PE scope sight in side mount.





Left: a standard AVS-1940 Simonov-Tokarev rifle fitted with a 3.5X PU scope sight in a special monopost mount. (Note: the semi-automatic rifles of 1938 and 1940 patterns are sometimes designated "AVS", which indicates that they, like the AVS-1936, are probably largely Simonov designs.)

Below: the AVT-1940 automatic rifle. Safety is firing switch (left - semi-auto...down - safe... turned into cut on right side of stock - full-auto).

For clarification (?) of this AVS-AVT-SVT business, see page 16.

Bayonets for the AVS/AVT rifles are called "tessak" - knife bayonet.

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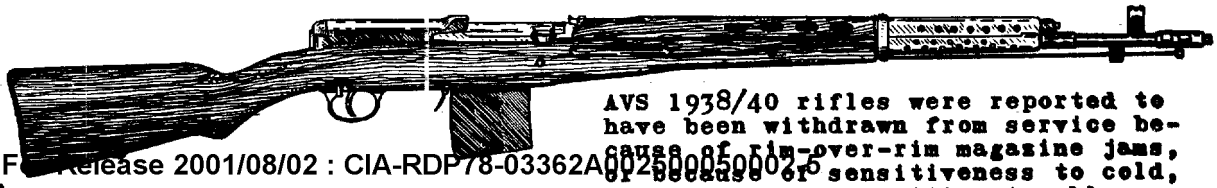
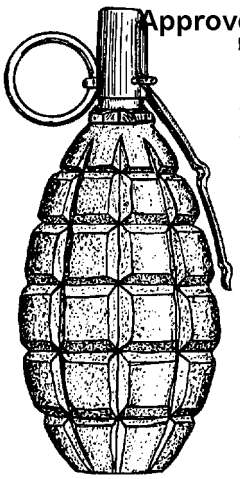


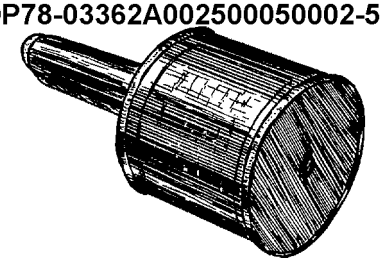
"Tokarev"AVS rifles were encountered in Korea in the early days of the incident.

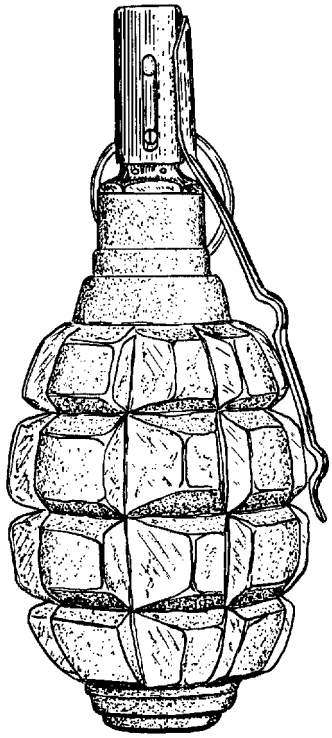
AVS 1938/40 rifles were reported to have been withdrawn from service because of rim-over-rim magazine jams, or because of sensitiveness to cold, or because of ammunition troubles.

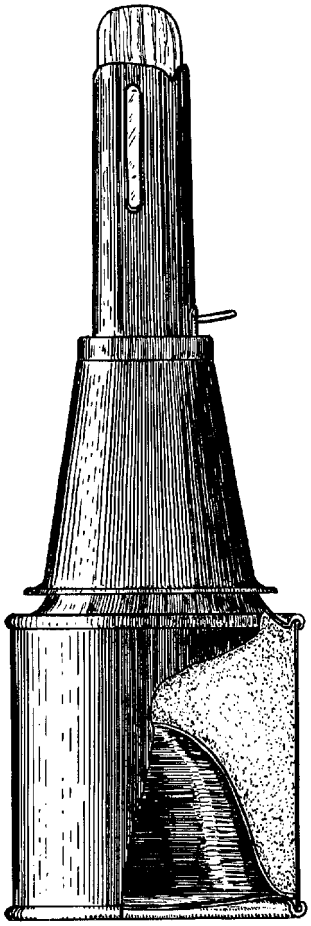
BUT have they really been abandoned?

Soviet soldiers like and make much use of - grenades. The variety of grenades of all types shown here and in WEAPONS 1 is evidence of Soviet interest in this class of ordnance.







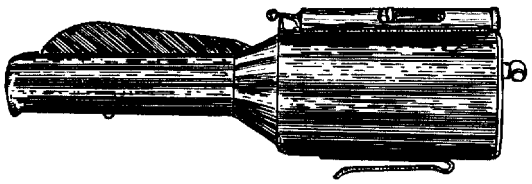


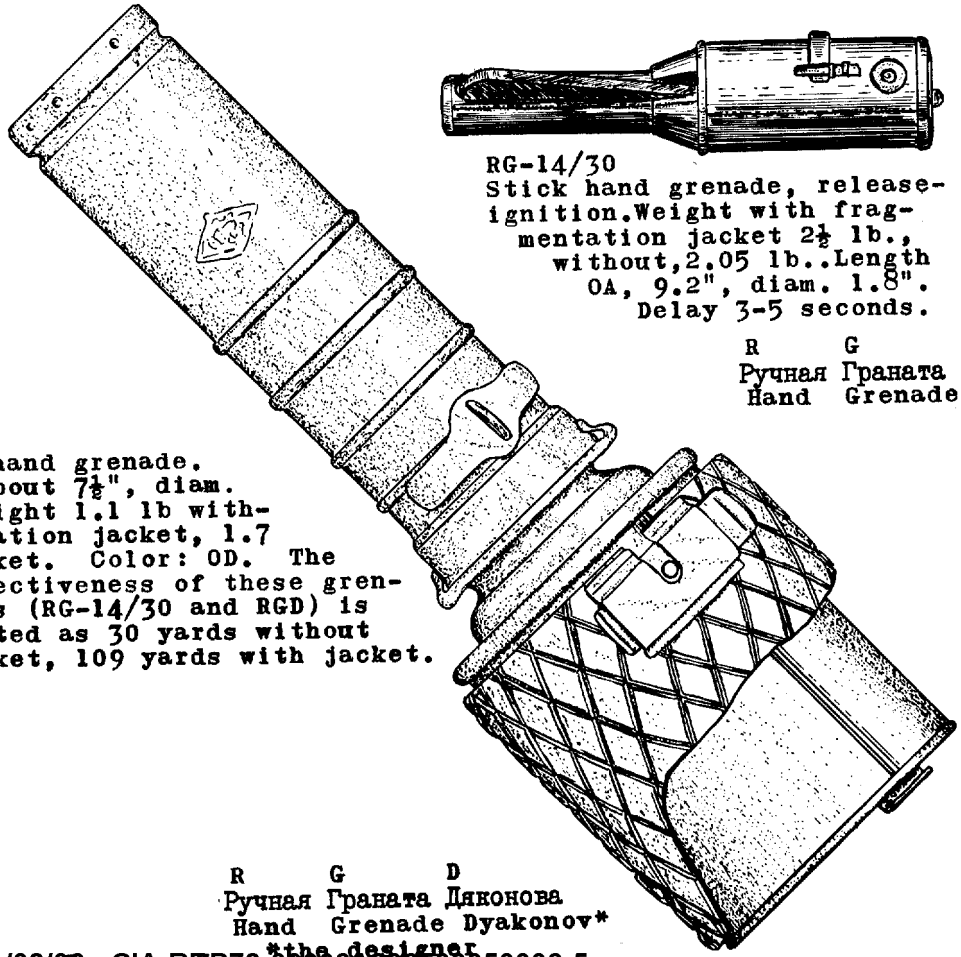
Above:
Koveschnikov hand grenade (reported by Germans), F-1. Weight 1½ lb., length 4.7", diam. 2.6". Delay 3½-4½ seconds. Color: OD.
Right:
F-1 hand grenade, data similar to above above.
Danger radius of these grenades is approximately 20-30 yards.

Above:
Explosive anti-tank grenade, RPG-41. Weight 2.1 lb., OA length 7.9". Length of body 3.3", body diameter 3.7", impact ignition. Color: OD. Effectiveness: not more than 25mm armor.
Right:
Explosive (hollow-charge) anti-tank grenade, RPG-43. OA length 11½", length of body 3.7", body diameter 3.7". (Entire body length including base cone 4.5") Effectiveness: about 70-75mm armor max..

R P G
Ручная Противотанковая Граната
Hand Anti-tank Grenade

30 yards is "sure-kill" range. Individual fragments retain effectiveness for more than 200 yards.



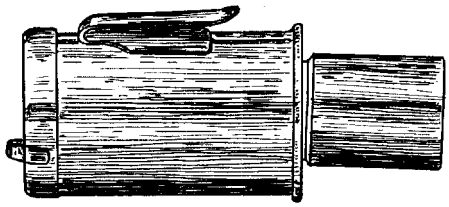


RG-14/30
Stick hand grenade, release-ignition. Weight with fragmentation jacket 2½ lb., without, 2.05 lb.. Length OA, 9.2", diam. 1.8". Delay 3-5 seconds.

R G
Ручная Граната
Hand Grenade

Chemical hand grenade KhG. Weight 1.8 lb., OA length 9.7", diameter 2.6". Filling, approximately 1.1 lb. chloropicrine (chlorpicrin). Marked (on base): ХИМИЧЕСКАЯ and on stick: А.О.К.М.

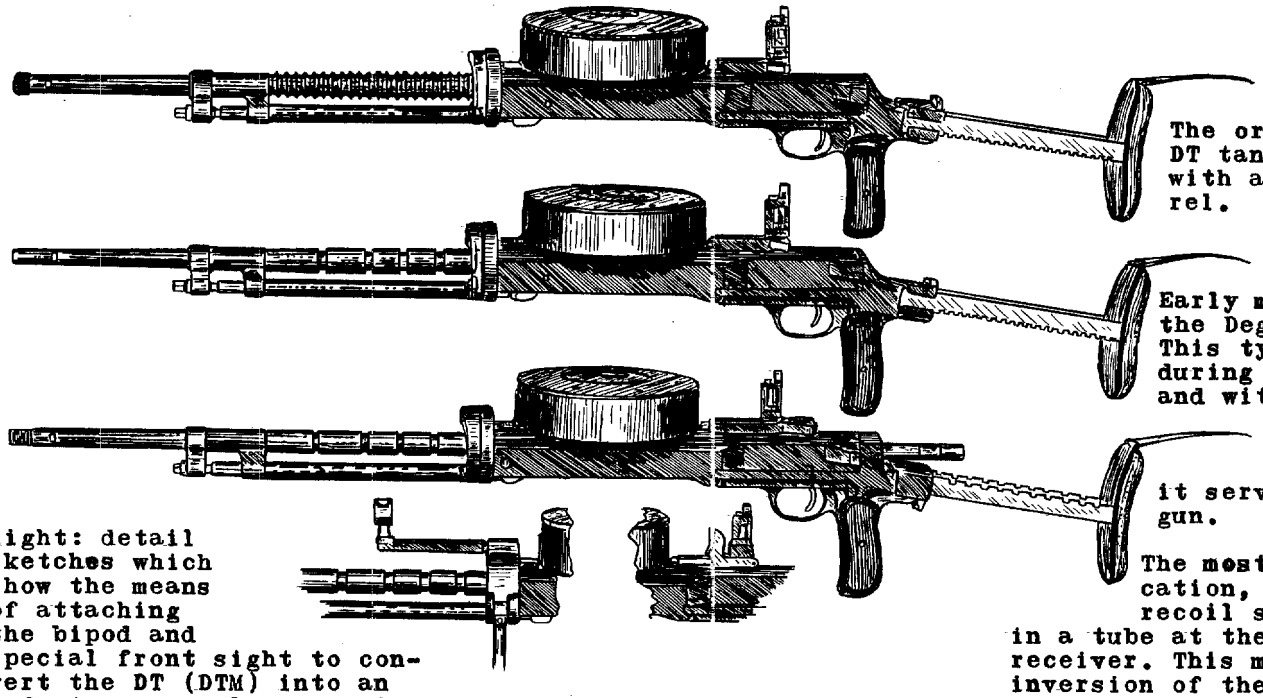
Right:
RGD - stick hand grenade. Length OA, about 7½", diam. about 2". Weight 1.1 lb without fragmentation jacket, 1.7 lb. with jacket. Color: OD. The effectiveness of these grenades (RG-14/30 and RGD) is listed as 30 yards without jacket, 109 yards with jacket.



Above:
"S" smoke grenade. Weight 1.3 lb., length OA 6.3", diameter 2.6". Color: OD. "S" on cap.
(Not shown) RDG-1 smoke grenade, 1.1-1.2 lb., smoke mixture 1 lb. Grayish-black smoke, 20-25 yards radius.

R G D
Ручная Граната Дяконова
Hand Grenade Dyakonov*
*the designer

R D G
Ручная Дымовая Граната
Hand Smoke Grenade

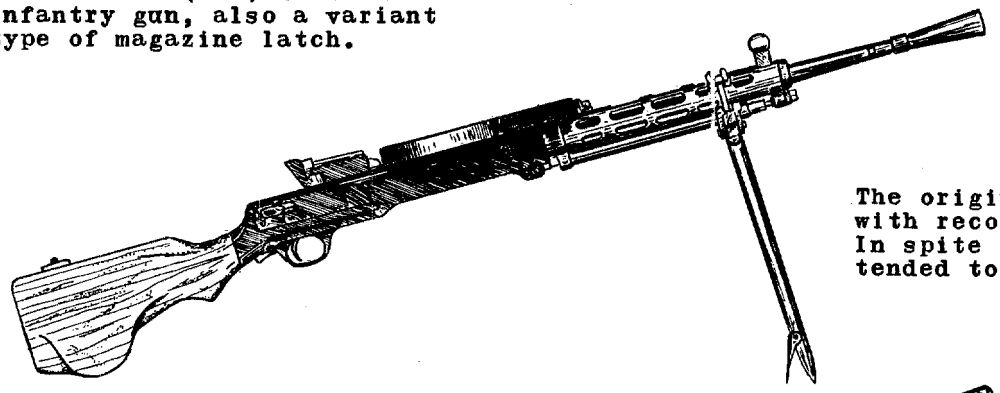


The original Degtyarev DT tank machine gun with aircraft gun barrel.

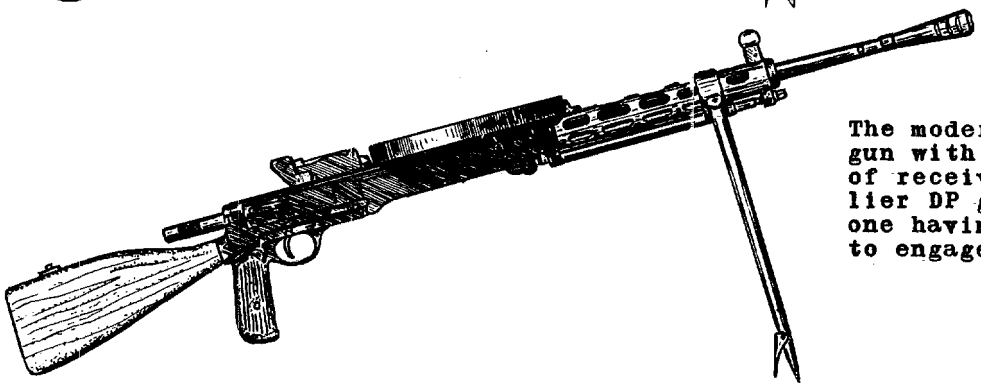
Early modification of the Degtyarev DT gun. This type was common during World War II, and with attached bipod and front sight it served as a ground gun.

The most recent modification, the DTM, with recoil spring relocated in a tube at the rear of the receiver. This made necessary inversion of the stock latch and a redesign of the stock arms.

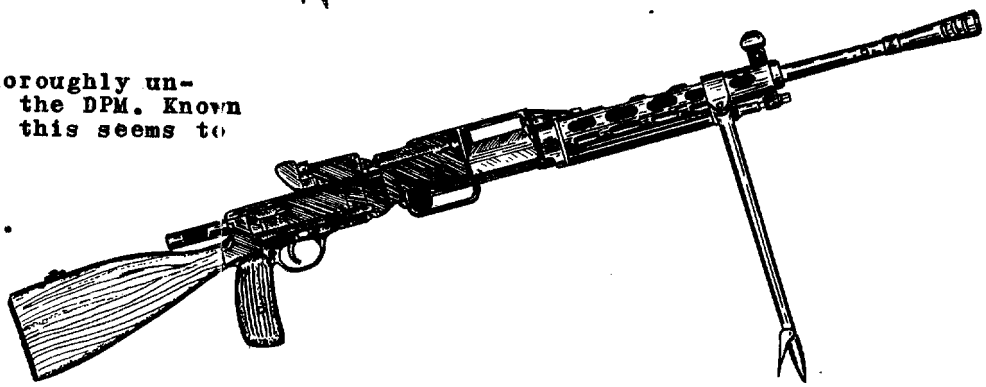
Right: detail sketches which show the means of attaching the bipod and special front sight to convert the DT (DTM) into an infantry gun, also a variant type of magazine latch.



The original Degtyarev DP infantry gun with recoil spring in tube below barrel. In spite of quick-change barrel, spring tended to overheat and lose strength.



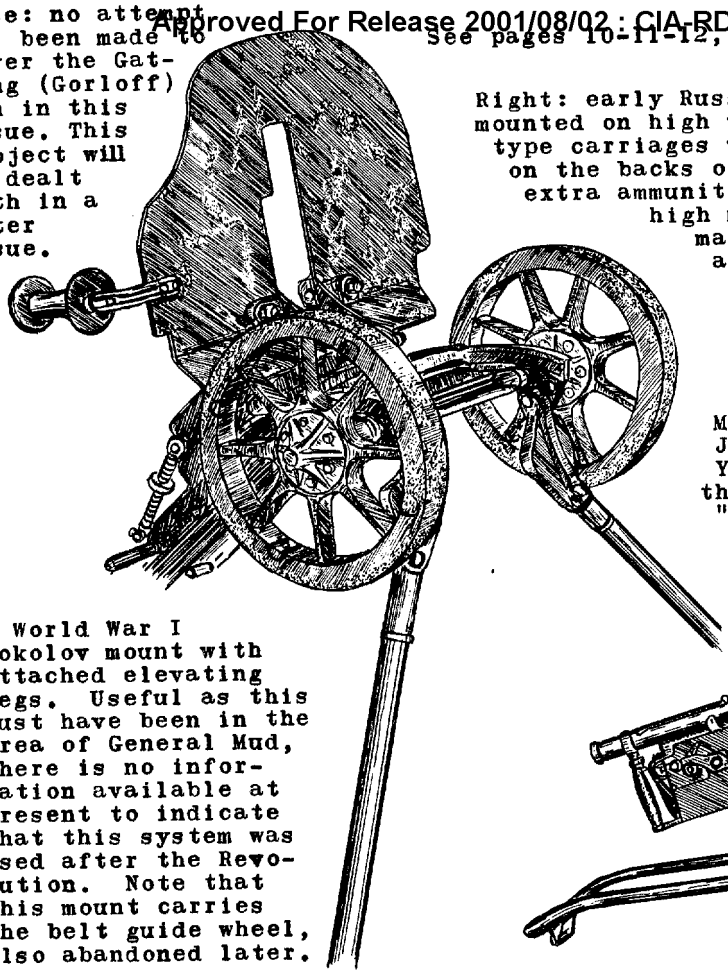
The modernized Degtyarev DPM infantry gun with recoil spring in tube at rear of receiver. The firing pin of the earlier DP gun is replaced in the DPM by one having a long tail extending back to engage the recoil spring.



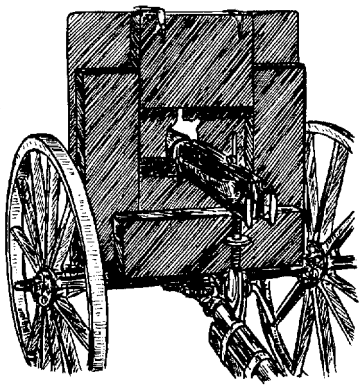
Right: the little-known and thoroughly unpublicised belt-fed version of the DPM. Known as the Model 1946 Company gun, this seems to be a DPM gun with the standard pan feed which can be replaced with a special belt-feeding mechanism, here shown attached. Pan holds 47 rounds, the feed mech uses 50-round belts, probably metallic.

Note: no attempt has been made to cover the Gatling (Gorloff) gun in this issue. This subject will be dealt with in a later issue.

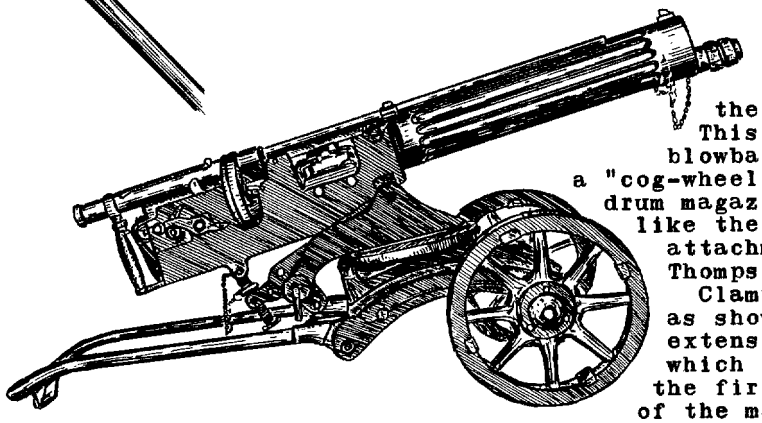
See pages 10-11-12, WEAPONS 4.



A World War I Sokolov mount with attached elevating legs. Useful as this must have been in the area of General Mud, there is no information available at present to indicate that this system was used after the Revolution. Note that this mount carries the belt guide wheel, also abandoned later.



Right: early Russian Maxims were mounted on high wheeled artillery-type carriages with large shields, on the backs of which were hung extra ammunition boxes. These high mounts must have made the gunner an attractive target for snipers, and they must also have attracted fire from Japanese artillery. Photographs of Maxims lost to the Japanese during the Yalu River fighting (Russo-Japanese war) indicate that many must have been smashed by artillery "counter-battery" fire.



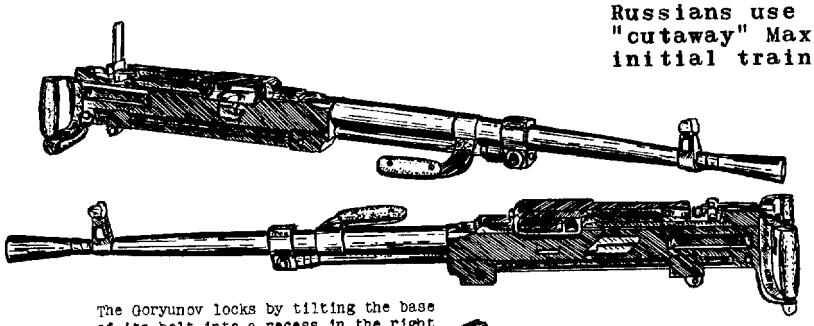
Left: a .22 training attachment for the 1910 Maxim. This is a straight blowback device with a "cog-wheel" compartmented drum magazine, rather like the Robbins .22 attachment for the Thompson SMG. Clamped to the gun as shown, it had an extension trigger which engaged with the firing mechanism of the main gun. The Russians use this and "cutaway" Maxims for initial training.

7.62мм станковый пулемёт
7.62mm medium (mounted)machine gun
Обр. 1943г"Горюнова"
Model 1943 (year) Goryunov

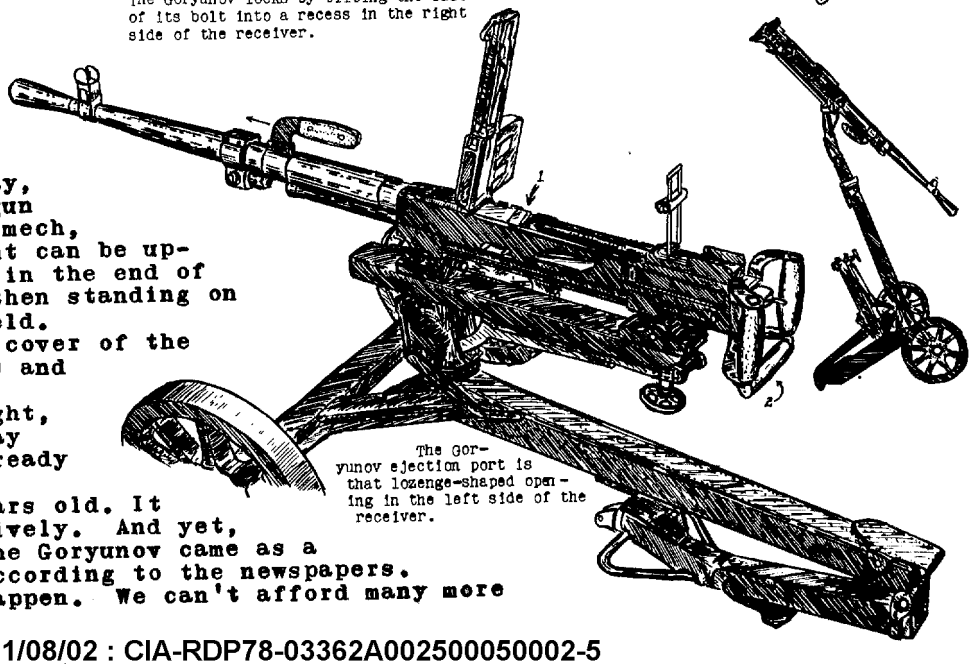
*****

Gas-operated, air-cooled, belt-fed (250-round fabric belt, 50-round metallic belt). OA length approx. 46", weight of gun approximately 30-31 lb., weight with tripod approx. 90 lb.. The cyclic rate of this gun is listed anywhere from a moderate 600-700 RPM to as high as 1100 or 1200 RPM. (It is not a dual-rate gun like the Obr.1939g.) The wheeled mount, a modernized Sokolov type, is dual-purpose: it can be used in the conventional way, with or without shield, with the gun set in a recoil-absorbing harness mech, or - with shield - the entire mount can be up-ended and the gun set in a clevis in the end of the trail for AA fire, the mount then standing on its wheels and the top of the shield. Quick-change barrel: lift the top cover of the gun, disengage the barrel lock (1) and pull the barrel straight forward. Operation: introduce belt from right, pull cocking handle (2) all the way back and push it forward. Gun is ready to fire.

The Goryunov is now almost ten years old. It was used in World War II - extensively. And yet, when the Korean Incident began, the Goryunov came as a complete and terrible surprise, according to the newspapers. One wonders how such things can happen. We can't afford many more "surprises".

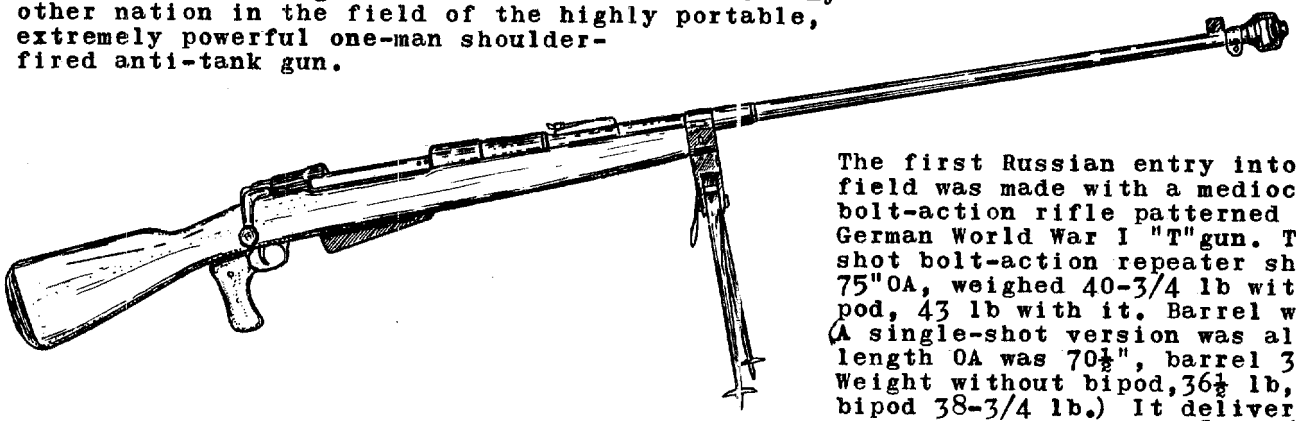


The Goryunov locks by tilting the base of its bolt into a recess in the right side of the receiver.



The Goryunov ejection port is that lozenge-shaped opening in the left side of the receiver.

The Russians have gone farther than has almost any other nation in the field of the highly portable, extremely powerful one-man shoulder-fired anti-tank gun.



The first Russian entry into this field was made with a mediocre 12.7mm bolt-action rifle patterned after the German World War I "T"gun. The five-shot bolt-action repeater shown was 75"OA, weighed 40-3/4 lb without bi-pod, 43 lb with it. Barrel was 45½". (A single-shot version was also made: length OA was 70½", barrel 39.37". Weight without bipod, 36½ lb, with bipod 38-3/4 lb.) It delivered an 800-grain projectile at 2,820 f/s MV. It was regarded as ineffective and was abandoned about 1939.

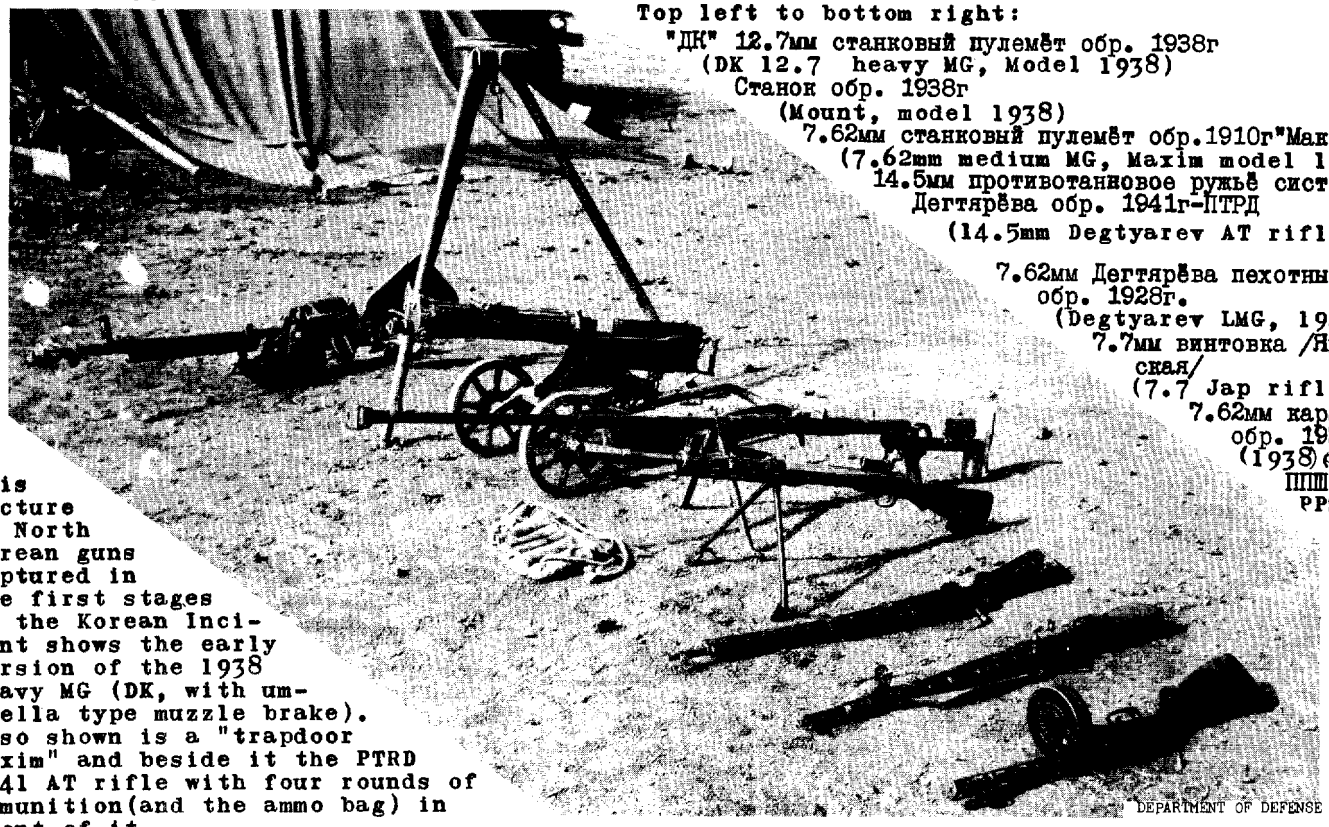
An American soldier with a captured PTRS 1941 demonstrates how not to fire the piece. The weapons have some little recoil, and unless you happen to have an unnatural appetite for your own knuckles it's best to put that "off" hand under the stock near the base.

It may even be a good idea to fire the gun left-handed, since this will enable you to reach the operating handle without changing position and will also simplify reloading. These PTR-class weapons are extraordinarily effective even at long ranges on light and medium armored vehicles.

A World War II Russian anti-tank position in a trench during the Orel offensive. Lt. Panfilov, at left, holds a captured German MP38 (note the ribbed receiver). At the right is anti-tank rifleman Ermilin with a PTRD-1941. The padded butt, telescoping stock and unlocking cam system are clearly visible in this view.

Actually, the PTRD - very possibly one of the last weapons designed by the great Degtyarev - is a much more ingenious and interesting weapon than the PTRS, which is little more than a scaled-up "Tokarev" rifle.

Top left to bottom right:
"ДК" 12.7мм станковый пулемёт обр. 1938г
(DK 12.7 heavy MG, Model 1938)
Станок обр. 1938г
(Mount, model 1938)
7.62мм станковый пулемёт обр.1910г"Максима"
(7.62mm medium MG, Maxim model 1910)
14.5мм противотанковое ружьё системы
Дегтярёва обр. 1941г-ПТРД
(14.5mm Degtyarev AT rifle)
7.62мм Дегтярёва пехотный
обр. 1928г.
(Degtyarev LMG, 1928)
7.7мм винтовка /Японская/
(7.7 Jap rifle)
7.62мм карабин
обр. 1938г.
(1938 carbine)
ППШ 1941
PPSh41



DEPARTMENT OF DEFENSE

This picture of North Korean guns captured in the first stages of the Korean Incident shows the early version of the 1938 heavy MG (DK, with umbrella type muzzle brake). Also shown is a "trapdoor Maxim" and beside it the PTRD 1941 AT rifle with four rounds of ammunition(and the ammo bag) in front of it.
The "trapdoor Maxim",although basically a 1910 model, is of a modified type produced around 1945. All of these guns, except the Japanese rifle (and perhaps the PPSh1941, which could have been made at Pyongyang), are Russian made.

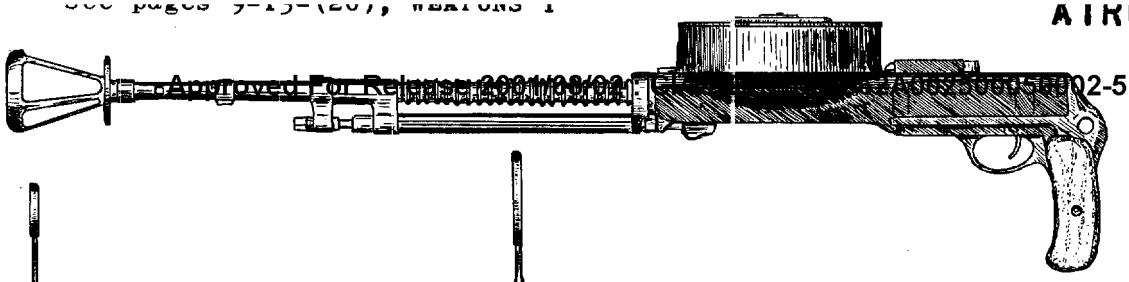
The Model 1938 heavy machine gun is basically a Degtyarev design, the older type being designated "DK". When the arm was redesigned by the late Shpaghin, it was redesignated D/Sh/K. Chief external difference: a more compact muzzle brake on the D/Sh/K.

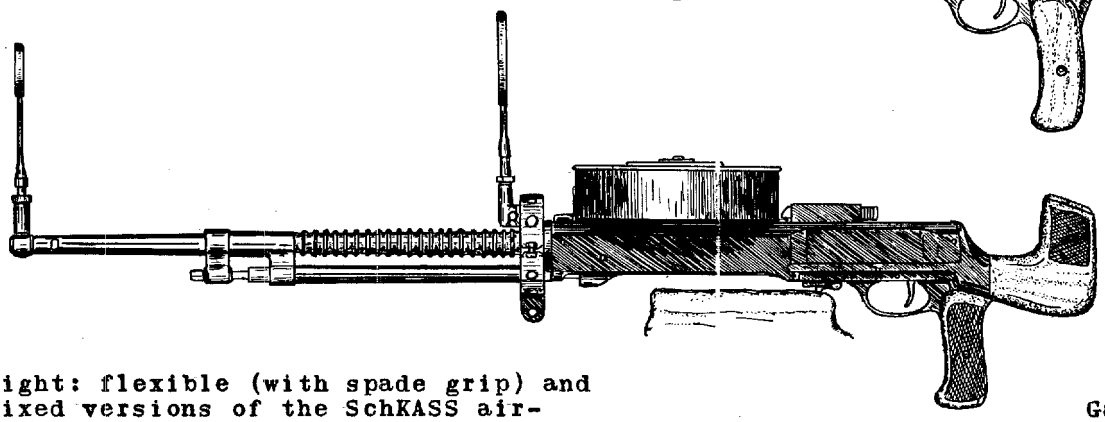
DEPARTMENT OF DEFENSE

"ДШК" 12.7мм станковый пулемёт обр. 1938г . D/Sh/K 12.7mm heavy machine gun, Model 1938. This is a modernized version of the original Degtyarev DK shown in the picture above. This view with the gun cocked and the feed mechanism cover lifted shows the feed crank engaging a lug on the actuating slide in its rearward position. Note also the compartmented feed rotor and the belt ejection guide.

This gun was captured near Chunju in the early days of the Korean Incident.

The BA-64 armored car shown on page 14, WEAPONS 1, does NOT carry a D/Sh/k as standard armament. The one illustrated was "mis-assembled" intransit here.



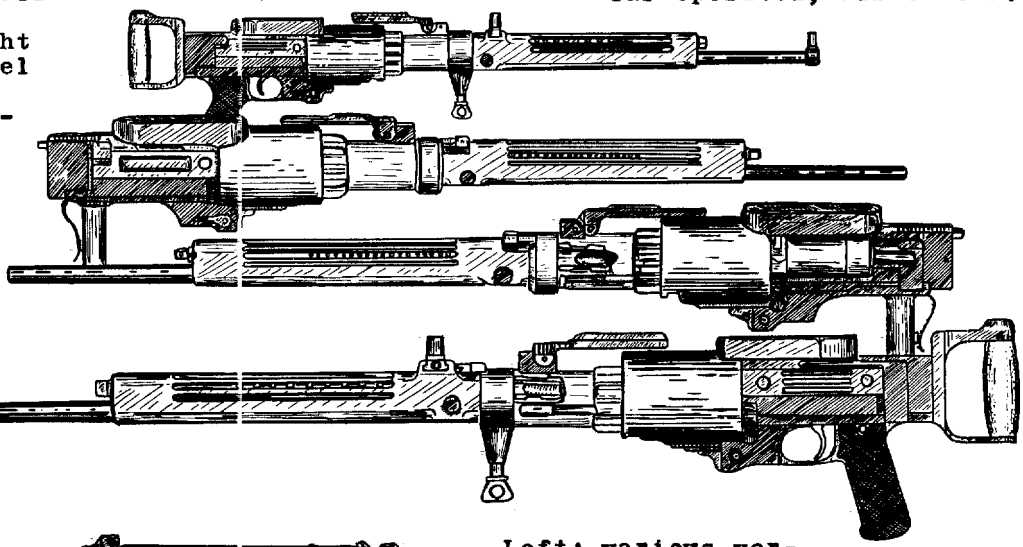


Original Degtyarev DA aircraft gun. Length OA (including muzzle brake) 39.2" Barrel, 23.8". Weight 16 lb. Drum capacity, 60 rounds. Cyclic, 550 RPM.

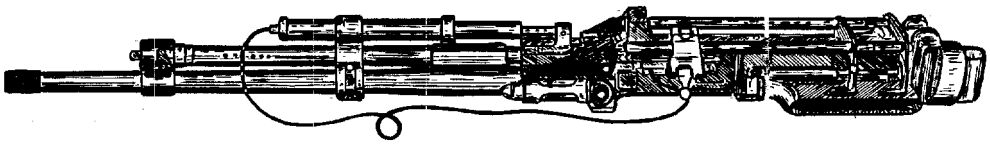
Later Degtyarev DA aircraft gun. Length OA 39". Barrel, 23.8". Weight, stripped, about 16-17 lb. Weight, complete with fittings, 25-26 lb. Drum capacity, 60 rounds. Cyclic, 550 RPM.

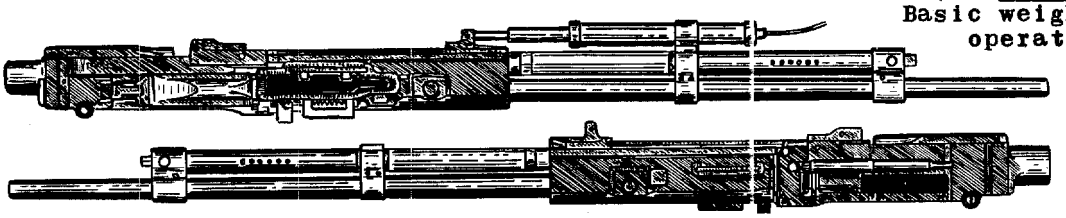
Gas-operated, air-cooled.

Right: flexible (with spade grip) and fixed versions of the SchKASS aircraft gun.
Flexible gun: Model 1936. Weight 23.2 lb., length OA 37.8", barrel length 23.8". (Longer barrels have been reported.) Belt: disintegrating metal-link type.
Fixed gun: weight 24 lb., length OA 34½", barrel length 27". Belt: as above.
(Note: the Model 1935 SchKASS, known from German reports, is believed to be a prototype.)
Cyclic rate: reported to be around 1800 RPM.
All models of SchKASS are gas-operated and air-cooled.



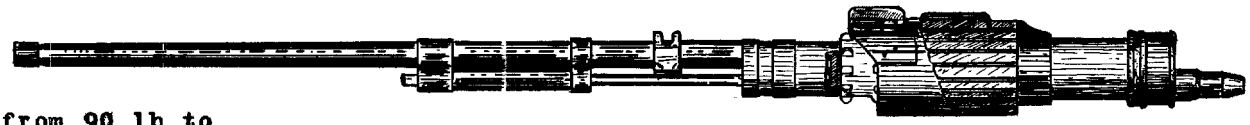
The 12.7mm SchVAK is a scaled up version of the SchKASS. Rimmed ammo.

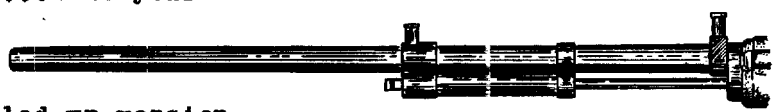




Left: various versions of the original BS aircraft gun (top, in mounting harness) and the later UB (or VB) gun - with and without charging mechanism. Caliber 12.7mm rimless. Length OA, about 52-53". Basic weight, 55-60 lb.. Belt fed. Gas operated, air cooled. Cyclic rate variously reported to be from 700 to 900 RPM as a free-firing gun. A reported synchronized version is believed to have a deliverable rate of about 650-700, perhaps slightly less.

The 20mm SchVAK gun.
Gas operated, belt fed, air cooled. Basic weight listed from 90 lb to 125 lb, basic length OA from 66 to 87 inches...take your pick. Cyclic rate is believed to be about 800 RPM.
Basically a scaled-up version of the SchKASS 1935/6.





Above: basic SchVAK 20mm.
Left: barrel setup of SchVAK 20mm flexible gun.
Below: 20mm SchVAK motor cannon as used in the various "P"(Pushka) - cannon engines.
(A short-barreled SchVAK is believed to exist.)

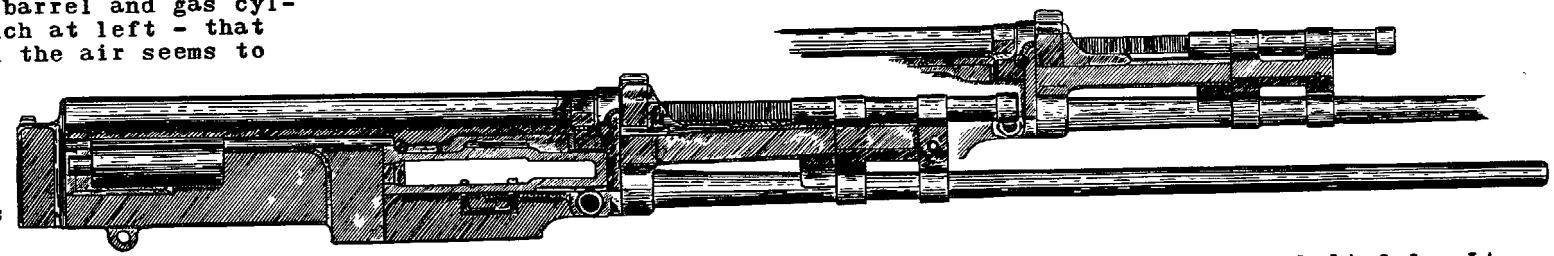
The 20mm SchVAK is also reported as a tank gun on some versions of the T-40 and T-60 tanks. It is, however, primarily an aircraft gun, its use in other fields being minor at best.

Engine cannon (20mm SchVAK) and heavy aircraft machine gun (12.7mm UB)being cleaned. The cannon barrel and gas cylinder are on the bench at left - that thing sticking up in the air seems to be the gas piston.

This 1946 picture shows "The group of engineers who have been awarded a Stalin Prize of the second class for the design of a new aircraft gun. Left to right are: P.Gribkov, M.Bundin, G.Lebedev, A.Nudelman, A.Richter and A.Suranov."

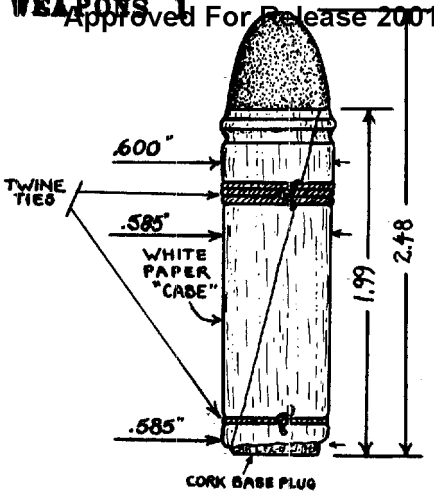
Just as a passing note -- there's at least one copy of "Aircraft Engineering" on the desk.

(Two apparently slightly different versions are shown, both observed in photographs of arms in service)→

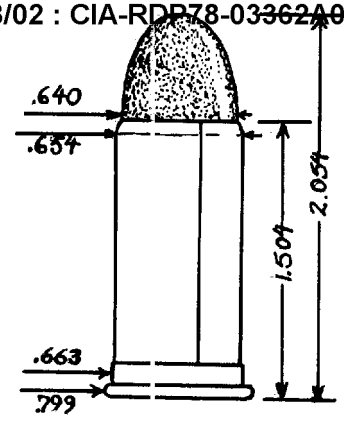


The big 23mm gun, known by a variety of names and designations...V-1a, Volkov-Yarzev, Volkov-Dzhareev. This big fellow is about 80-85 inches over all and is believed to weigh about 150 pounds...exact data are plentiful,but unfortunately these "exact data" fail to agree among themselves!

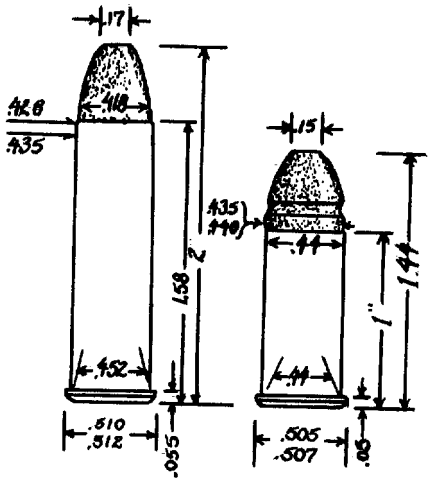
The gun is gas-operated, air-cooled and belt-fed. Its cyclic rate is sometimes given as 400-600 RPM but is believed to be somewhat slower - probably in the 350-500 RPM range. Originally designed as an anti-armor gun, it is now an all-around weapon.



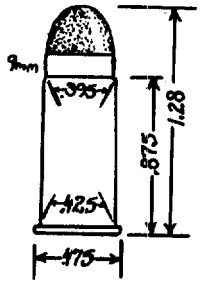
Carlé (et fils) - 1867
Bullet length approx..950"



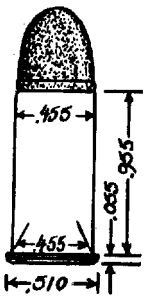
Krnka - 1867
Cartridge weight about 832 grains.
Folded brass case in base cup.



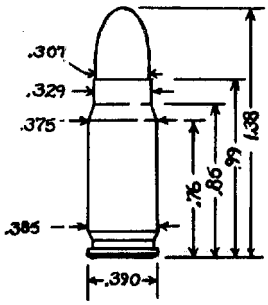
Above...
Left: .44 Evans New Model 276-grain bullet with 43 grains of powder.
300-grain bullet with 40 grains of powder.
Right: .44 Evans Old Model 220-grain bullet with 33 grains of powder.



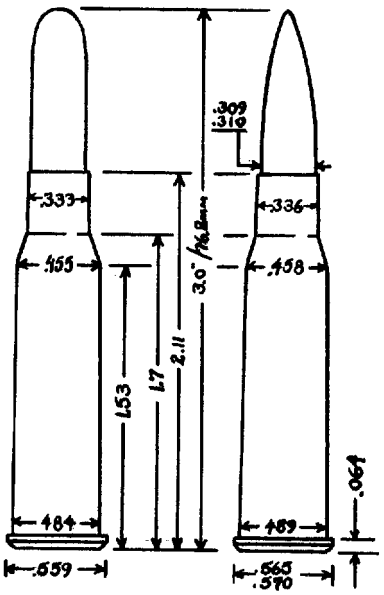
9mm Galand (c.1870)



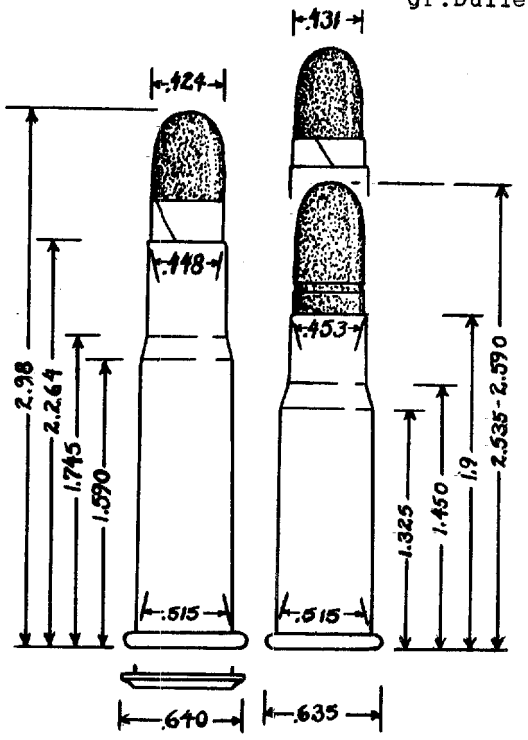
.44 S&W Russian (c.1870) 200-250 gr.bullet.



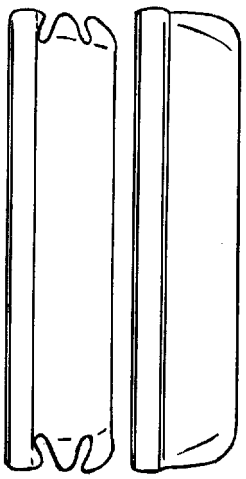
7.62mm Tokarev auto-pistol. (See WEAPONS 1)



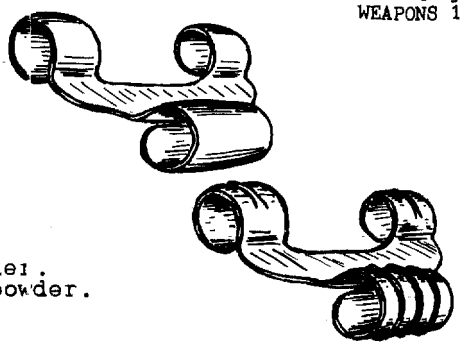
Above...
Left: original 7.62mm Mossin cartridge. 201-gr.bullet, 2034 f/s.
Right: 7.62mm Mossin cartridge, Model 1908. (See WEAPONS 1 for loads.)



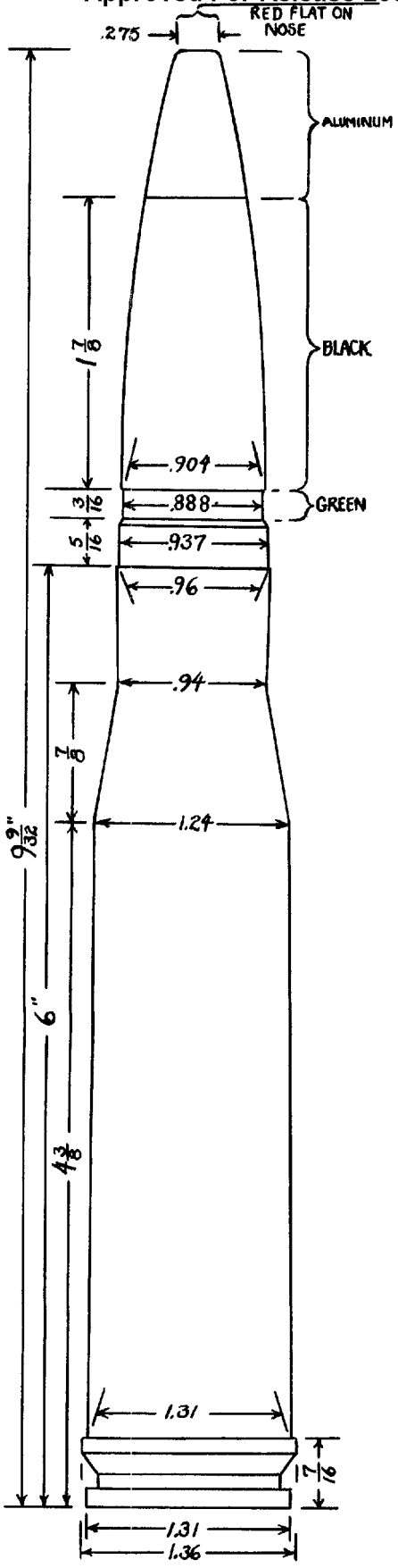
Above...10.66mm Berdan I (1867) and Berdan II (1884 -?1872?)...
Left: Rifle - 370 gr.bullet, 77 gr. powder.
Right: Carbine - 370 gr. bullet, 60 gr.powder.

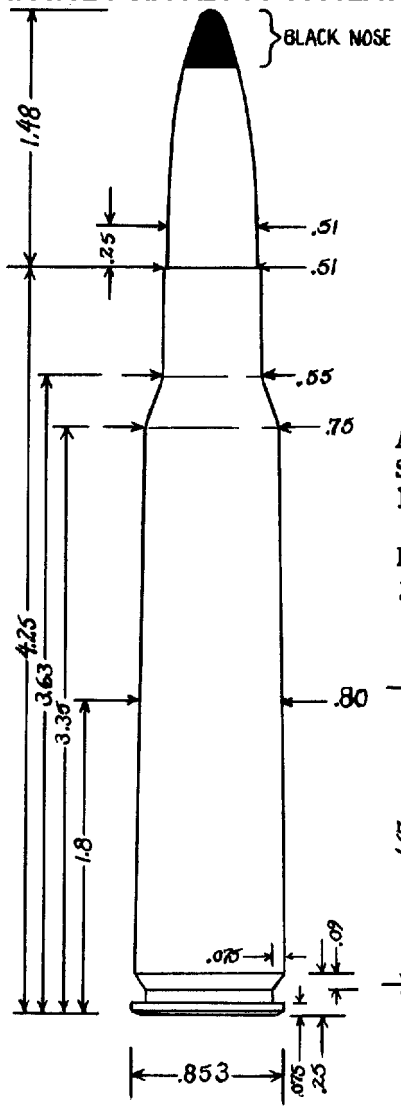


Mossin-Nagant chargers.



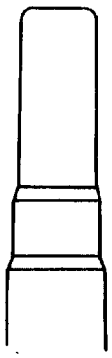
Left: SchKASS belt links.



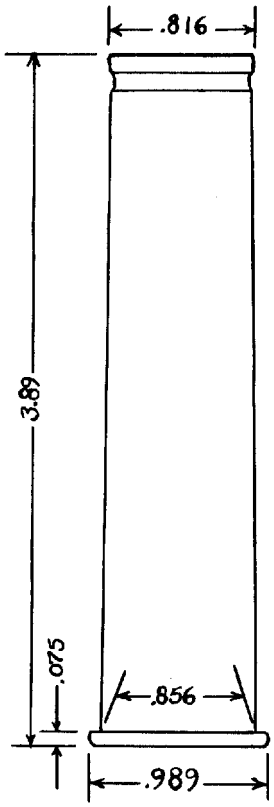


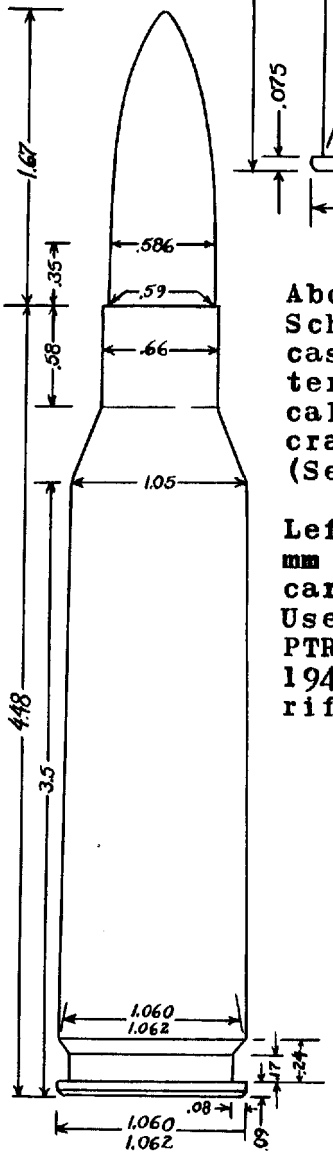
Above: the rimless 12.7mm cartridge used in the DK, D/Sh/K, BS and UB guns.

Left: the big 23mm cartridge for the V-Ia aircraft gun. Originally, it seems, there was only one load (the AP/I described in WEAPONS 1) for the gun, which was strictly an armor-buster. Now they've put out the HE/T load at the left. 23mm muzzle velocities are around 2900-3000 f/s.



Above: Special 12.7mm (rimless) HE projectile.





Above: 20mm SchVAK shell case for intermediate-caliber aircraft gun (See p.12)

Left: 14.5 mm AT rifle cartridge. Used in the PTRS-PTRD 1941 AT rifles.

Ammunition notes:

Cartridge case lengths of ammunition listed in WEAPONS 1, pages 18-19. (Overall lengths of complete round are given in parentheses). Overall lengths of all complete 7.62mm rifle and MG rounds is 76.5mm EXCEPT F, which is 58.5mm OA. A: 24.8mm(34.6mm). B-C: 24.8mm (see A). D: 38.7mm. E: 53mm. F-H incl.: 53.5mm. Q/Q', R/R', S/S', S1/S1': 108mm (147mm). T-U: 113.8mm(155mm). X: 150.5mm (236mm).

Projectile lengths....A-B: 14.3mm. D: 16.5mm. F:11mm. G-G': 28.5mm. H: 38mm. I: 33.3mm. J: 36.5mm (core 30mm). K: 40mm. L:37mm. M: 40.4mm. N: 30.6mm. O: 39mm. Q/Q',R/R',S/S',S1/S1': 63.5mm. T: 50.4mm. U:66mm. X:106.5mm (core 59.7mm).

The HE point-detonating superquick fuzed 20mm SchVAK round is listed as"OZT", indicating that in addition to the above it is a tracer.

Some useful ammunition terms....

Подрнв - blasting, blowing up
Подрывной заряд - explosive charge
Осколочный взрыватель - point-detonating fuze, superquick fuze

Порох - powder
Бездымный порох - smokeless powder
Чёрный порох - black powder
Пистон - percussion cap, primer

Corrections of misspellings in WEAPONS 1 -
Медь, красная медь - copper (inside front cover).
Дегтярева - Degtyarev (page 2)
Холостой патрон - blank cartridge (page 19)
Бронебойная пуля - armor-piercing bullet (page 19)
Regarding bayonets...
Штык - ordinary bayonet (as on Mossins)
Штык-тесак - sword bayonet (1936-38-40 rifles)
Concerning rifles....
Автоматическая винтовка - automatic rifle (AV)...
Самозаряжающаяся винтовка - semiautomatic rifle (SV)..Thus the 1936 rifle is called AVS (for Simonov), the 1938 rifle SVT (Tokarev).. but not, alas, invariably!

Concerning aircraft guns....
Синхронизированный пулемет - C - Synchronized gun (s)
Крыльевой пулемет - K - Wing gun (k)
Турельный пулемет - T - Turret or tourelle gun (t)

The initial, given with the serial #, indicates the gun's position on the aircraft.

Подвижной пулемет - flexible gun
Неподвижной пулемет - fixed gun

Авиапушка - aircraft cannon
Авиапулемет - авиационный пулемет - aircraft machine gun

ШКАС - SchKASS
ШВАК - SchVAK

Another point to be noted: when a Russian small arm is given a model number according to the year of its adoption, the year numerals will be followed, normally, by a lower-case Russian "g" (г), which stands for "year" (год).

A.Engelhardt writes:"Are you sure that the various pre-1914 models had the stock pierced for a sling swivel - I...think this came in only after 1915 or even later. The fine Russian carbine labelled "Pre-World-War-I Russian Carbine"....was used by machine-gunners of the infantry regiments and, according to some information, also by artillerymen. // The Dragoon rifle also had an arrangement to carry triangular bayonet on the rifle, with the point backwards along the stock, so as not to impede the men riding horseback. // Did you know...that after 1920 the Russians ordered from the GECO company in Berlin a lot of Russian army rifles with heavy target barrels? These were made at very convenient prices, the Company hoping to get a repeat order. The guns were very well made - I've seen one. When no repeat orders came, the Co.investigated, found that the Russians liked them very much and had proceeded to manufacture them themselves! -- Did you know the Russian M.1891 would fire to a different point of impact if you took the bayonet off? That's the reason for the Russian team in the Stockholm Olympics (1912) firing with bayonets fixed. They came out last."

WEAPONS 1, page 2: the 34/38 submachine gun should be 34/38 - it was also Degtyarev-designed. (Degtyarev or Degtyarov? - take your pick: it's about halfway between!)

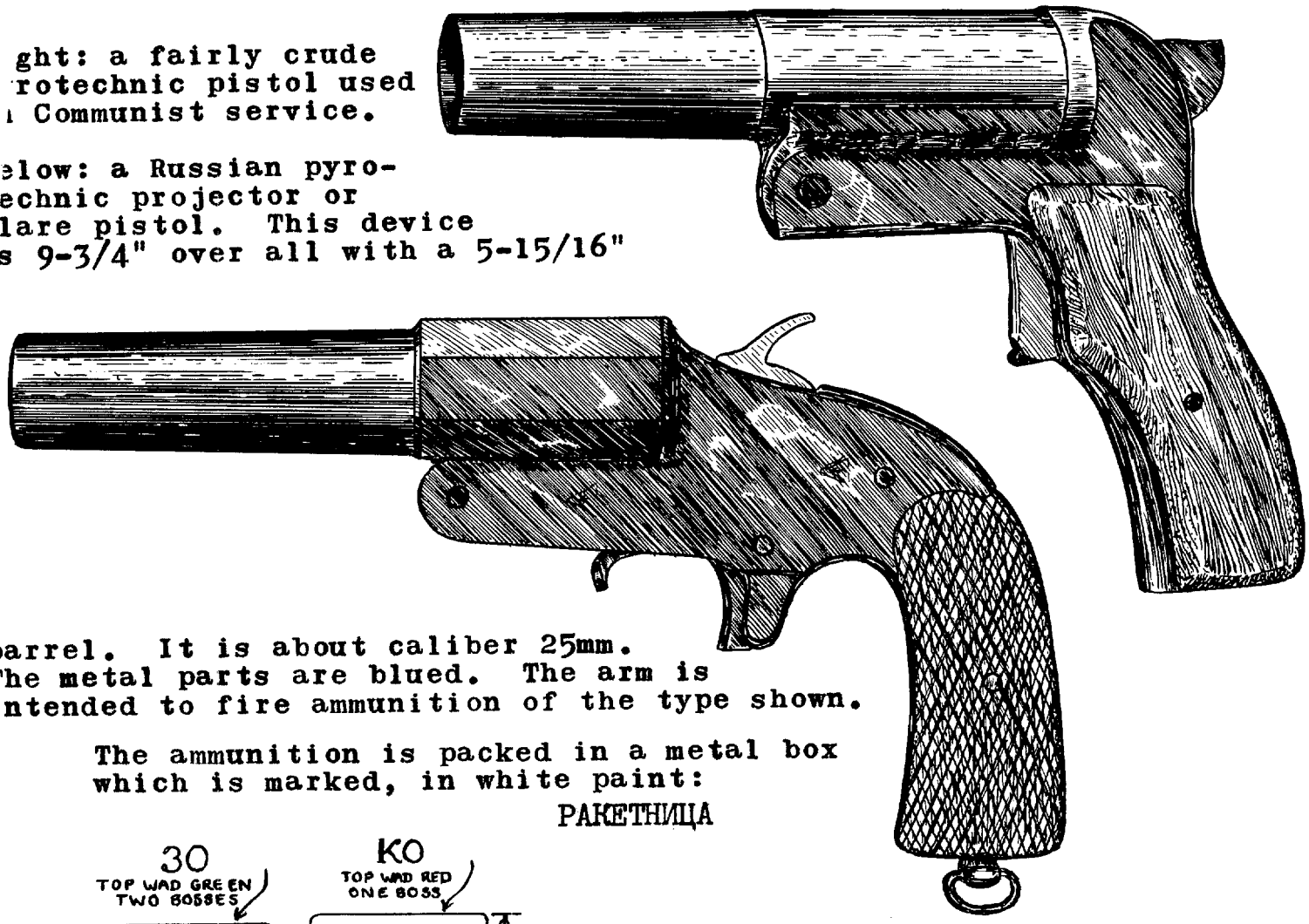
Of course, some guns have been omitted. The Russians, for example, had limited stocks of early Madsen machine-rifles acquired about the time of the Russo-Japanese War. When they took over the Baltic States they got supplies of Pattern 14 (British) rifles in .303, Vickers-Berthier LMGs in .303 and Czech Brno M26s in 7.92mm. In Poland they acquired heavy Browning M30s in 7.92mm, also Browning machine rifles and Bergmann M15 LMGs in this caliber. Among other Russian non-standard guns we can also find the old Colt "potato-digger" and the Lewis, both in 7.62mm.

Similarly, the Russians acquired stocks of all kinds of German (and German-allied) equipment, most of which was, naturally, in caliber 7.92mm for rifles and MGs and caliber 9mm Parabellum for pistols and SMGs. While the reception given most of this stuff was little more than luke-warm, the Russians fell whole-heartedly in love with the superb Schmeisser machine-pistols(MP38 and MP40). Photographs taken during and since the war indicate that these weapons were and are widely used. These SMGs influenced Russian arms design, too: the Sudaev 1942/43 owes a measure of its basic design concepts to the MP 40.

However, it must be pointed out that these guns were in the main quite common and widely known, that they were in most cases not actual Russian weapons and that so much information is available elsewhere on them that it was not thought imperative to include them them here. The old, the rare and the unique have been included. For the rest....well, I had to stop some time!

ght: a fairly crude
rotechnic pistol used
Communist service.

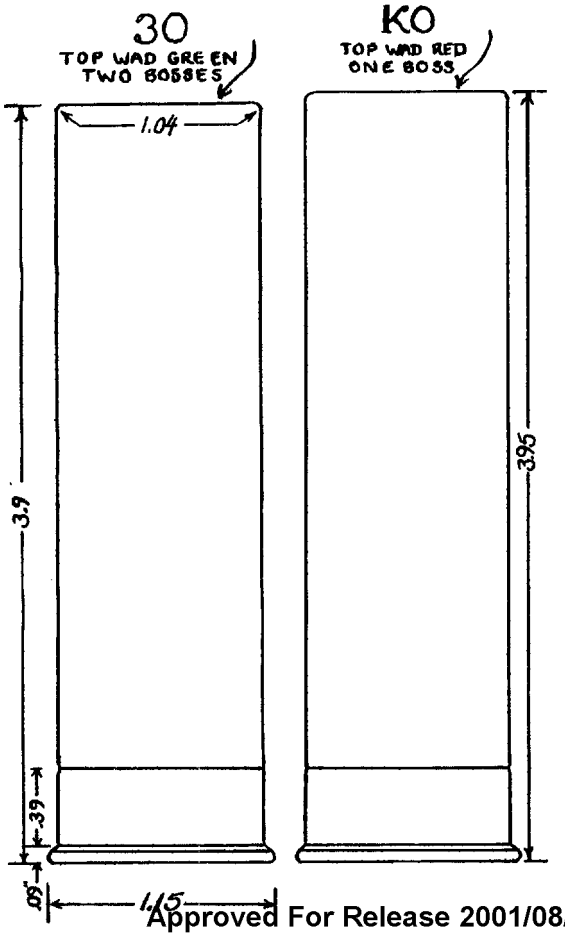
elow: a Russian pyro-
echnic projector or
lare pistol. This device
s 9-3/4" over all with a 5-15/16"



barrel. It is about caliber 25mm.
The metal parts are blued. The arm is
intended to fire ammunition of the type shown.

The ammunition is packed in a metal box
which is marked, in white paint:

РАКЕТНИЦА



РАКЕТНИЦА - ракетница - raketnitsa -(rocket projector) pyrotechnic projector.
РАКЕТА - ракета - (rocket or) flare, pyrotechnic signal.
РАКЕТНЫЙ ПИСТОЛЕТ - ракетный пистолет - pyrotechnic pistol.

Осветительная ракета - illuminating or star flare or pyrotechnic.
Сигналная ракета - signal flare.

Зелёный / зелёная - green

Красный / красная - red

Information on this projector and on its ammunition was supplied by Terry W.Brown, 311-36th N.W., Canton 9, Ohio.

It is reported that some special ammunition for Russian flare pistols contains buckshot. At that, buckshot would be better than getting popped with a flare!